

REMARKS/ARGUMENTS

Introduction

Claims 1, 3-20 and 22-38 are pending. There are only two independent claims, claim 1 and claim 20.

The Rejection

The only rejection is an obviousness rejection of claims 1, 3-12, 20 and 22-31 based upon Esselborn in view of Inaoka. As will be set forth below, applicants respectfully submit Inaoka is not a reference and Esselborn does not render the claims obvious.

Patent Publication US 2005/0080298 to Inaoka et al. Is Not A Reference.

Submitted herewith is a certified copy of the foreign priority document. As indicated by the Examiner (page 3, paragraph 7), submission of the verified translation is effective to remove Inaoka as a prior art reference.

Applicants respectfully request that the rejection utilizing Inaoka be withdrawn.

Esselborn Alone Does Not Render The Claims Obvious, But Rather Describes A Completely Different Reaction From The Reaction Described In The Claims

Applicants submit that the claims herein describe a method which is not only chemically different in its mechanism, but also provides a different product. The claims herein describe a method of dispersing aqueous suspensions of solids by using a dispersant comprising block copolymers which are a reaction product of a free radical, anionic or cationic polymerization of a poly (alkylene oxide) of formula I with an ethylene compound of formula II. See page 11 first paragraph of the specification which describes these

reactions. The reaction product/block copolymers form the dispersant. Esselborn does not describe such a reaction, and certainly does not describe such a reaction to obtain a dispersant. As acknowledged by the Examiner, Esselborn describes a dispersant, but does not describe a dispersant with a cement. That is why the Examiner cited Inaoka et al., but as discussed above Inaoka et al. is not available as a reference. As will be discussed below, no matter if Inaoka et al. is available as a reference, the claims are not obvious in view of Esselborn or a combination of Esselborn and Inaoka.

Esselborn describes a first reaction of a t-butyl methacrylate with an ester or carboxyl function mercaptan to give a *first reactant which is a poly t-butyl methacrylate segment*. See column 2, lines 8-45. Thereafter, the latter poly methacrylate segment is reacted with a polyalkylene oxide segment *in the presence of an esterification or transesterification catalyst* (see columns 4 to 5) which then is followed by the elimination of isobutene. Esselborn forms an intermediate with a free radical reaction then further reacts the methacrylate segment in a condensation reaction. Esselborn introduces a polyalkylene oxide via the transesterification/condensation reaction. See column 2, lines 16 to 23. That condensation reaction takes place at a -C(O)-O- group of the poly methacrylate segment. In contrast applicants form their dispersant with a free radical, anionic or cationic reaction.

The reaction mechanisms of Esselborn and its differences from the mechanisms of claims are not academic. The only way to get a sulfur into the dispersant of the claims would be when z is formula V and z is -SH or z is formula IV with double bonded oxygens on the sulfur. In any event, if for example z is -SH, the reaction described in the claims would provide $R^1-O-(C_mH_{2m}O)_{n-1}-C_mH_{2m}-S-(C(R^6,R^7)-C(R^8,R^9))_w-H$. Because of the nature of his reaction, when Esselborn has sulfur that sulfur will be in the same line of carbons which has a carbonyl group, for example $H-(CC(O)OX(CH_3)-CH_2)_m-S-(CH_2)_pC(O)-O-(C_nH_{2n})_oR^1$ (See formula I at column 2, line 30 of Esselborn).

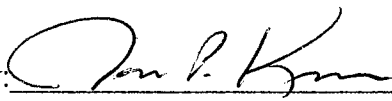
Esselborn needs an ester group to prepare his copolymers via his condensation esterification/transesterification reaction. This type of reaction creates its own problems which are not problems with applicants' free radical, anionic or cationic reaction to obtain block copolymers. Esselborn's problems include hydrolysis, transesterification, pH dependent stability. These problems do not exist for applicants because ester groups are not used in the polymerization reaction and ester groups are absent in the polymer backbone.

Conclusion

Applicants respectfully submit that the current claims patentably define the invention and requests that a timely Notice of Allowance be issued in this case. The Commissioner is hereby authorized to charge any additional fees which may be required in the Application to Deposit Account No. 06-1135.

Respectfully submitted,

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Dated: January 10, 2008

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